REMARKS

These remarks are in response to the Office Action mailed July 16, 2004. The shortened statutory period for response is set to expire October 16, 2004. A three-month extension of time, to expire January 18, 2005 (January 16, 17, and 18 being a Saturday, Sunday, and federal holiday, respectively), is requested in a petition filed herewith.

Applicant thanks the Examiner for the clear statement of grounds for rejection of the claims. The following comments will be referenced to the paragraph numbers of the Office Action in order to insure that each grounds for rejection is adequately addressed herein.

Regarding OA Paragraph 2: Revised formal drawings are being submitted herewith, as directed in Para. 2.1 of the Office Action. However, Applicant respectfully traverses the Examiner's assertion that Figure 2 should be designated with a legend such as –Prior Art--. In particular, Figure 2 shows a removable medium 22 having stored thereon the inventive simulated awareness method 10 of the present invention. Further, database 28 consists of data to be used with the present inventive method. (See, e.g., Applicant's Specification at Page 6, Lines 10-13) For at least these reasons, Applicant respectfully asserts that computer system 12 is not old and not prior art. Applicant respectfully requests reconsideration and withdrawal of the objection to Figure 2.

Regarding OA Paragraph 4: Claim 24 has been deleted herein.

Regarding OA Paragraph 5:

5.1: Claim 6 is amended herein to change the first instance of "digital form" to "digital life form". Applicant believes that this is not new matter, since the term "digital life form" was already present in the claim. The term was, inadvertently, not properly introduced in the original claim format.

5:2: This grounds for rejection of claim 7 is corrected by the amendment to Claim 6, as discussed above in relation to OA 5.1.

5:3: This grounds for rejection of claim 8 is corrected by the amendment to Claim 6, as discussed above in relation to OA 5.1.

5.4: Claim 24 has been deleted herein.

5.5: Claim 24 has been deleted herein.

5.6: Claim 27 has been deleted herein.

5.7: Claim 28 has been deleted herein.

Regarding OA Paragraph 6: Claims 27 and 28 have been deleted herein.

Regarding OA Paragraph 7: Applicant thanks the Examiner for expediting the prosecution in this manner. As discussed above, the word "life" has been added to Claim 6 such that the language of that claim now conforms to the Examiner's interpretation. Claim 27 has been deleted herein.

Regarding OA Paragraph 8:

Applicant acknowledges the significant similarities between the present invention and the teachings of the *Oliveira* reference cited by the Examiner. Indeed, Applicant further acknowledges that some of the claim language, prior to the present amendments, inadvertently fell within the scope of those teachings. However, Applicant respectfully submits that there are several significant differences between the *Oliveira* teachings and the presently claimed invention. One such significant difference lies in the fact that *Oliveira* teaches an experiment for studying evolution, wherein entities that survive long enough to reproduce will pass on the survival characteristics to their offspring, and such characteristics will, eventually, become part of the genotype (or, at least, that is what is being theorized, according to the "Baldwin theory"). On the other hand, the present invention is concerned primarily with the behavior of an entity such that some iteration of the entity might eventually advance to a state wherein it will develop potentially useful characteristics, ones that might eventually be used to improve the ability of humans to interact with computerized entities and devices, or the like. That is, while the *Oliveira* experiment concerns the study of the very interesting question of whether or not learning can be passed on genetically, the present invention is primarily concerned with the development of an entity such that the entity might eventually develop something analogous, in at least some context, to sentience.

In order to achieve the objectives of the present invention, it is necessary that the "entities" (the Digital Life Forms) be capable of developing rather sophisticated behaviors. Therefore, while the behaviors of the *Oliveira* experiment are somewhat complex, they are rather rudimentary as compared to anything that might be readily recognized as simulated consciousness. For example, it

would appear that the "learning" accomplished in the *Oliveira* experiment might be learning to choose from among pre-programmed behaviors. Similarly, while the Examiner asserts at paragraph 8.1.20 that *Oliveira* teaches "percept lists", this is one point on which Applicant must respectfully disagree, at least as the term is used in the present application. For example, at page 9. line 23 of the application "percepts" is defined:

> As seen in the view of Fig. 4, the DLF 32 can include one or more percepts 67. As defined herein, a percept 67 is a list of the perceived characteristics of the objects 60 that is calculated from input sensed by the DLF 32 from the objects 60 in its environment 30. Each percept 67 is a list of the properties and values (property measurements) of a corresponding object 60. To the DLF 32, the percepts 67 are the identities of the objects 60. Therefore, the percepts 67 are the processing units of simulated perceptual consciousness in a DLF 32, as will be discussed in more detail hereinafter.

At page 11, line 13:

> As can be appreciated in light of the above discussion and the flow diagram of Fig. 4, once various objects 60 have been perceived by a DLF 32, they must be evaluated with the DLF's 32 life as the standard of value. To a biological life form, since its continued existence is conditional, every percept is either a value or a disvalue relative to its life. That is, every percept has value significance to the life form as being information about its world that is either for or against its life.

And at page 12, line 18:

> Early in a DLF's 32 life, when there are few examples of percepts 67 and how the DLF's 32 previous actions changed them, most of the DLF's 32 actions will be selected by trial and error. However after an extended life and, perhaps, many thousands of perception/action events, the action selection methods will have much more data to use and will, therefore, be able to select actions with the greatest survival value more efficiently. Some examples of action strategies that might be provided by a programmer are as follows:

In light of the above descriptions and definitions, while there is no teaching in *Oliveira* that the entities "perceive" other than that which is specifically programmed there for them to "perceive", according to the present invention, percepts, as defined are, themselves, a part of the learning process from which valuable (survival) concepts are formed.

Accordingly, Applicant has herein amended the remaining claims to emphasize this distinction.

Claims 1, 6 12, 16, 23 and 29 have been amended such that all independent claims are

limited as discussed above. Claims 2, 3, 7, 8, 24, 26, 27 and 28 have been canceled, either for reasons specifically discussed above or because one or more of these claims would be redundant in light of the amended independent claims. Claims 1, 4-6, 9-23, 25, and 29-31 remain for consideration in this application. The remaining dependent claims should now be allowable as further limitations on the amended independent claims.
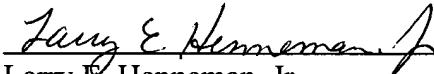
It is now thought that this application is in complete condition for allowance, and such action is respectfully requested. Applicant invites the Examiner to call Applicant's undersigned counsel should there be any remaining issues, or if the Examiner has any suggestions for expediting the prosecution of this application.

Respectfully submitted,
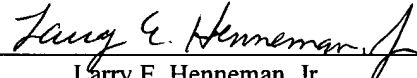
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